CORE

The Voice of Mineral Exploration

Summer 2019

IN CONVERSATION WITH PDAC'S NEW PRESIDENT FELIX LEE

MOVING THE NEEDLE ON GENDER DIVERSITY

MADE-IN-CANADA INVESTMENT TOOLS FOR THE MINERAL SECTOR

PDAC 2019 Convention

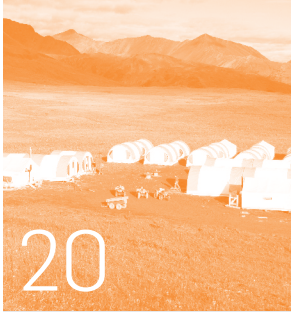
An Upward Trajectory!

PDAC

PROSPECTORS & DEVELOPERS ASSOCIATION OF CANADA

CORE

The Voice of Mineral Exploration
Summer 2019



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INDUSTRY NEWS

NEW IFRS RESOURCES

The CPA/PDAC Mining Industry Task Force on International Financial Reporting Standards (IFRS) released a new report on the capitalization of borrowing costs for mining companies.

As part of the Viewpoint Series, the reports outline factors to be considered in determining whether a mining company should capitalize borrowing costs, including ***DEFINING QUALIFYING ASSETS, ELIGIBLE COSTS AND IMPAIRMENTS.*** In addition, they examine leases, recognition issues and how IFRS 16 could impact accounting for some contractual arrangements within the mining industry.

British Columbia to make mining incentives permanent

British Columbia Premier John Horgan announced at Roundup 2019 in Vancouver that his provincial government intends to make the Mining Flow-Through Share (MFTS) tax credit and Mining Exploration Tax Credit (METC) permanent.

The MFTS provides a non-refundable B.C. income tax credit to individuals who have purchased flow-through shares from a company operating in B.C. The tax credit is worth 20% of qualified mining exploration expenditures that the mining company flows through to the individual.

The METC is a refundable B.C. income tax credit for eligible individuals and corporations conducting grassroots mineral exploration in B.C., and is worth 20% or 30% of mining expenditures.

PDAC WELCOMES FEDERAL BUDGET 2019

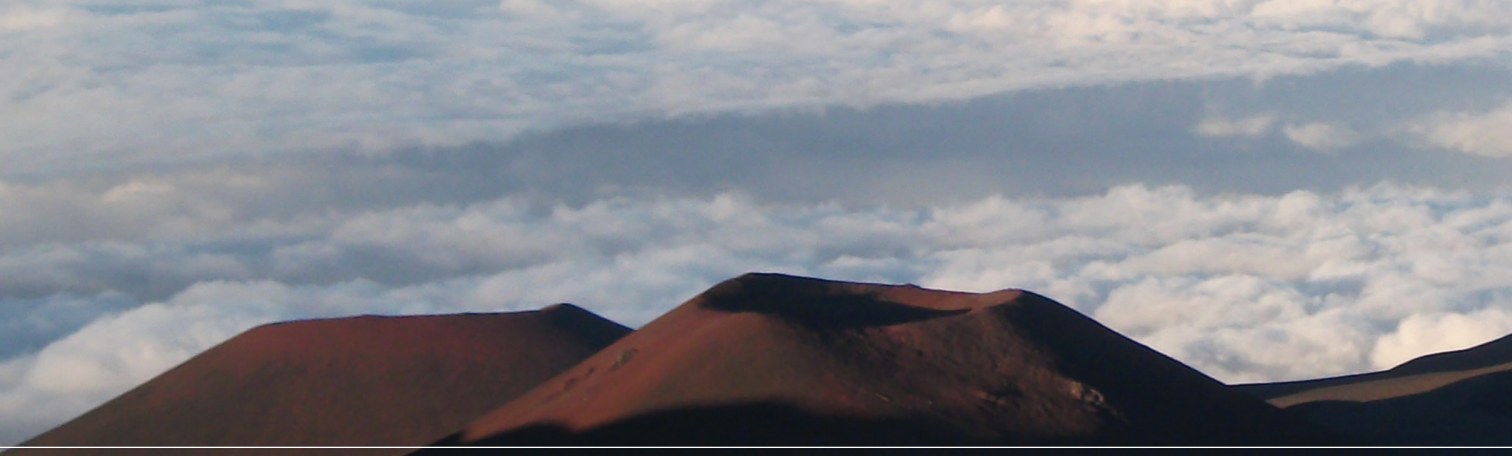
Building on the *2018 Fall Economic Statement*, the Prospectors & Developers Association of Canada (PDAC) was encouraged by the Federal Government's 2019 Budget released in March that includes measures aimed at helping Canada's mineral sector enhance its competitiveness and regain its global leadership position.

Federal Budget 2019 features provisions that align with PDAC's budget recommendations, including investments in Canada's Arctic and northern regions, skills development, training and apprenticeships, and Indigenous Communities.

Budget 2019 confirmed tax measures including the Accelerated Investment Initiative and the much celebrated five-year extension of the Mineral Exploration Tax Credit (METC). The extension of the METC until March 31, 2024 is the first multi-year renewal of the METC since its inception in 2000, something PDAC has long championed.

OTHER HIGHLIGHTS FOR THE MINERALS SECTOR INCLUDE:

- An increase in the allocation of the National Trade Corridors Fund to northern regions by up to $400 million over eight years, starting in 2020–21, for a total of $800 million to support infrastructure development.
- Enhanced funding to support planning by the Government of Northwest Territories for the proposed Taltson hydroelectricity expansion project.
- Additional funding to the Canadian Northern Economic Development Agency for its current economic development program.
- Funding for northern and Arctic communities for education, economic development programming, etc.
- Investments in initiatives to support universal high-speed internet in rural, remote and northern communities.
- Funds for Crown-Indigenous Relations and Northern Affairs Canada to create the Northern Abandoned Mine Reclamation Program.
- Initiatives aimed at supporting reconciliation with Indigenous Peoples.
- Investments in Indigenous communities to work towards addressing gaps in socio-economic conditions and education.
- Investments in skills training, apprenticeship programs for skilled trades, and Indigenous education and training.



INDUSTRYNEWS

New online community for venture-listed companies

A new online platform launched by the TMX Group called the TMX Matrix aims to help investors discover emerging growth companies. Customizable company pages take the mining investor beyond traditional financial metrics with real-time quotes, financing activity, analytics, news, and rich custom content like videos and presentations.

Since launching, nearly 200,000 investors have accessed the platform to view company profiles, market data, financing details, and additional company-uploaded materials.

MINING EXPENDITURE REVIEW TABLE

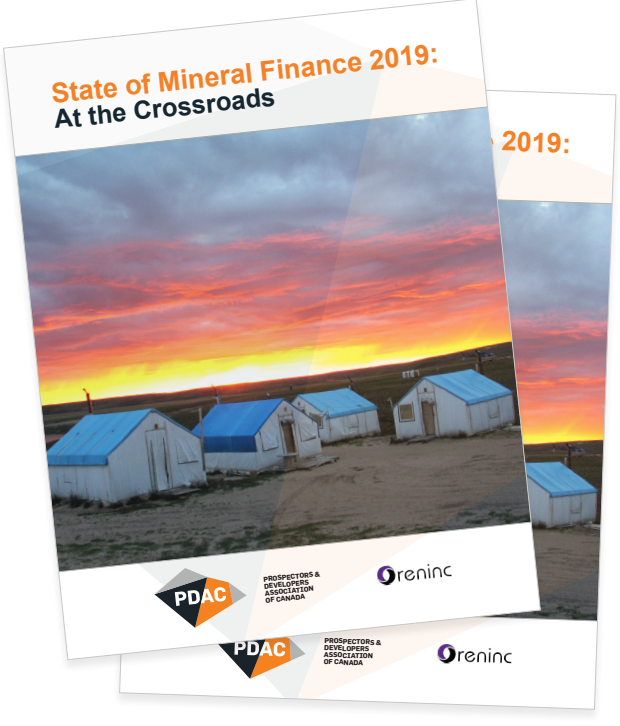
PDAC and Natural Resources Canada (NRCan) have collaborated to tackle challenges relating to Canadian Exploration Expenses (CEE). As a result, NRCan has published an extensive table to help clarify eligibility of various expenses, which we hope will benefit our members.

Federal Government appoints ombudsperson

In early April, International Trade Diversification Minister Jim Carr announced the appointment of Sheri Meyerhoffer as Canada's first Ombudsperson for Responsible Enterprise (CORE). Minister Carr also announced a legal review to consider Canada's legislative and policy framework regarding responsible business abroad, including an assessment of the application of the *Inquiries Act* to provide the CORE with the tools to compel evidence.

PDAC continues to advocate on behalf of its members for a CORE with a mandate for collaborative dispute resolution using joint fact-finding, and does not support a CORE that is quasi-judicial with powers to compel documents or witnesses. A CORE with a mandate that is non-judicial and focused on joint-fact finding is fundamental to ensuring the CORE is truly constructive, solutions-oriented and credible. Furthermore, the CORE should apply to all Canadian enterprises operating abroad and not just to three sectors.

MINERAL EXPLORATION AND MINING SECTOR AT A CROSSROADS



PDAC and Oreninc launched the *State of Mineral Finance 2019: At the Crossroads* report at the start of the PDAC 2019 Convention. The report shows that exploration spending jumped more than 30% in Canada and almost 20% globally in 2018. However, financing weakened overall, stalling the investment rebound that emerged over the previous two years as global funding for exploration financing dropped 50% year-over-year.

"The mineral exploration and mining industry is still feeling the effects of declining investment across the world, and despite earlier signals that the worst of the downturn was behind us, investor confidence and spending hasn't fully returned," says Felix Lee, PDAC President.

The report indicates that Canada was not immune but better shielded from declining investment in 2018 as exploration-specific financing fell by roughly half the global decline at around 25% year-over-year.

Also notable in 2018 was the year-over-year increase in funds flowing to African projects and the more than $600 million decrease in funds used to explore in South America.

PDAC 2019 Convention:

PDAC Convention exceeded 25,000 attendees for second straight year

The 87th edition of the PDAC Convention—the world's premier mineral exploration and mining event—brought together over 25,800 prospectors, students, geologist, government officials, investors, analysts and mining executives from more than 130 countries.

PDAC was also pleased to host Canadian Prime Minister Justin Trudeau who spoke to an audience of 300 invited guests with outgoing PDAC President Glenn Mullan. The conversation with the Prime Minister centred on the Government's support for Canada's mineral sector through the recent renewal of the Mineral Exploration Tax Credit (METC) for five years, along with our leadership in Indigenous partnerships, responsible exploration, and how our sector can remain competitive on the global stage.

"After my 44th straight year attending the PDAC Convention, the enthusiasm I saw from exhibitors and attendees in 2019 was among the best yet," said Mullan. "Although we continue to face economic challenges and uncertainty, the mineral exploration and mining industry is experiencing a renaissance and renewed sense of confidence, once more highlighting its resilience."

SAVE
THE DATE
PDAC 2020
MARCH 1-4

PDAC 2019 HIGHLIGHTS

- **IMMS:** PDAC, in partnership with the World Economic Forum, hosted the International Mines Ministers Summit (IMMS) for the fourth year, bringing together 24 Ministers responsible for mining from around the world. This year's summit focused on the future of responsible mineral supply chains.
- **CMMP and Canada Day:** The Canadian Minerals and Metals Plan (CMMP) was officially launched to position Canada as the leading mining nation and to lay the foundation for lasting success at home and abroad. The inaugural Canada Day had sessions on diversity, Indigenous leadership, investment, innovation, clean technology and the future of the sector.
- **Diversity:** As part of the Sustainability Program, sessions examined gender diversity and inclusion in the workplace, as well as in the community setting. The sessions were followed by the Mining for Diversity Reception.
- PDAC 2019 featured more than **1,100 exhibitors**, with over **500** at the **Investors Exchange** and another **600** at the **Trade Show**. After two years of sold-out exhibitor space and long waiting lists, Trade Show North was expanded to accommodate the growing demand.
- Attendees had an opportunity to attend **13 in-depth Short Courses** led by industry experts, including: Applied structural geology of gold and base metal bearing hydrothermal mineralizing systems; Concepts and application of machine learning to mining geoscience; Disclosure do's and don'ts; Fundamentos de estimación de recursos minerales (new for PDAC 2019 and instruction in Spanish only); Geology, genesis, and exploration for magmatic and magmatic-hydrothermal ore deposits; Geophysical and geochemical imaging of the continental upper mantle for mineral systems regional targeting; Health and safety in mineral exploration; Holistic exploration in covered terranes; Mining financial modeling; Recognizing the impact of political risk on mining operations; Reporting and benchmarking resource projects; Spectral geology; and The art and science of effective community engagement.
- Attendees enjoyed continuous networking opportunities—nearly **600** people celebrated at the sold out **Awards Gala & After Party** where six industry leaders were honoured in recognition of their outstanding contributions to the minerals and mining industry, and the Grand Finale once again brought attendees together to celebrate the success of PDAC 2019.

PROGRAMS

A highlight of the PDAC Convention, the **Aboriginal Program** once again brought the mineral sector together with Indigenous communities and companies to exchange ideas, share information and network. The platform has evolved into an important platform for fostering cooperative, respectful and mutually-beneficial relationships between Indigenous communities and industry. The 2019 Indigenous Program consisted of four sessions:

1. *The mineral industry and Indigenous communities: Canadian and international experiences*
2. *The Aboriginal Forum: Innovative partnerships*
3. *Indigenous law and regulatory frameworks: The evolving landscape*
4. *Aboriginal participation in the mineral industry: Collaboration, training and engagement*

Celebrating its 10th anniversary, the **Sustainability Program**, formerly the CSR Event Series, featured presentations and panel discussions highlighting key aspects of sustainable development, social and environmental performance. Nearly 850 attendees took part in 14 sessions on such topics as: Biodiversity and the future of the mining industry; Social license: A data-driven strategy; Gender diverse and inclusive workplaces; Designing sustainable prosperity; and Mining and climate change: Exploring drivers, trade-offs, and specific tool for understanding climate change risks and opportunities.

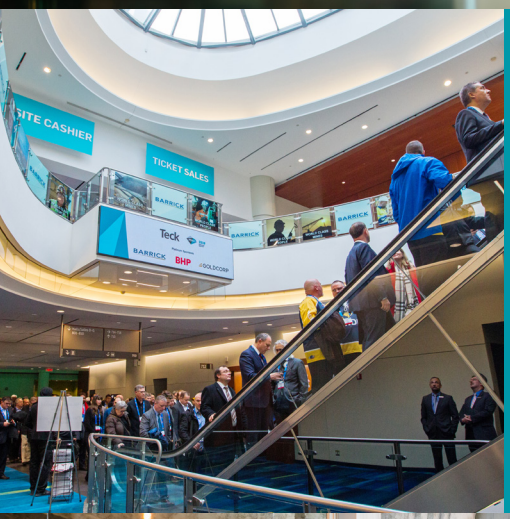
With investor confidence slowly gaining traction across the mineral industry, the **Capital Markets Program** provided attendees with discussions and expert analysis on the latest economic developments shaping the mineral sector. In total, 10 sessions were featured that focused on an array of topics, including: The value of human capital; Financing the mineral industry: Investment banker perspectives; Electrification revolution: EVs, energy storage and commodity inputs; M&A and consolidation in the mineral industry; and Capitalizing on the boom-and-bust cycle.

More than 1,050 students took part in the **Student & Early Career Program**, which continues to offer young professionals an opportunity to connect with industry leaders and peers from all over the world. Students had access to an array of networking sessions and events, including the Student-Industry Networking Luncheon, Impress for success workshop, and the Flash Mentoring event that for the second year provided students with an opportunity to sit down in person and discuss their career objectives with leading industry professionals.

CHANGING OF THE GUARD

The PDAC Convention is where a PDAC Presidency commences and ends. Glenn Mullan handed over the reigns to the association's 37th President, Felix Lee (*featured on page 14*). PDAC loudly applauds Glenn for his dedication and tireless work on behalf of the sector and association over the past number of years, and warmly welcomes Felix in his new role. **c**

PDAC 2019 CONVENTION HIGHLIGHTS



25,843 Attendees

Outside of Canada the largest number of attendees came from: **USA, Australia, United Kingdom, Mexico, Peru, Chile, Brazil, Argentina, South Africa, Germany, China**

29.6%	International attendees
132	Countries
1,054	Students
>500	Self-identified Indigenous attendees
359	Media
47	Sponsors

INVESTORS EXCHANGE

531 Booths

497 Exhibitors
19 Prospectors Tents

2,510 INVESTORS

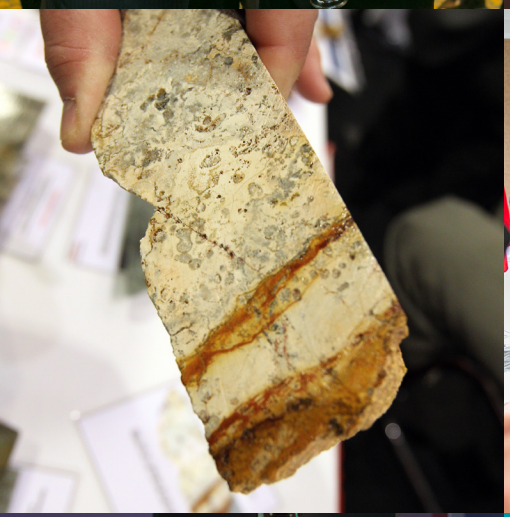
TRADE SHOW & TRADE SHOW NORTH

1,020 Booths

579 Exhibitiors
69 Governments

CORE SHACK

40 Exhibitors



PRESENTATIONS & WORKSHOPS

19	Technical Sessions
13	Short Courses
44	Presentation & Reception Rooms
117	Corporate Presentation Forums for Investors
778	Speakers

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VRIFY

Q&A

IN CONVERSATION WITH PDAC'S 37TH PRESIDENT FELIX LEE

PDAC's new President shares his vision for our association and the minerals sector, the importance of stakeholder engagement, and how the industry can adapt—and thrive—in these uncertain times.

PDAC

Q&A

"I have attended the PDAC Convention for 32 consecutive years since my university days. PDAC has been a significant presence throughout my career. When I joined the PDAC Board of Directors in 2007, I wanted to give back to the organization and to the industry that had given me so much."

Q

A

When the PDAC 2019 Convention ended, your two-year term as President of the association commenced. How are you feeling as you start your presidency?

I'm looking forward to this role and am excited about what PDAC has accomplished recently as a result of its advocacy efforts, and what we can accomplish going forward. The five-year renewal of the Mineral Exploration Tax Credit (METC)—the first multi-year renewal since its inception in 2000—along with a commitment by government to invest in Canada's Arctic and northern regions, skills development, training and apprenticeship opportunities for Indigenous Peoples, are all areas that PDAC continues to focus on.

There is also considerable work being done in numerous other areas, and the implementation of our latest strategic plan will advance the sector in four main areas—competitiveness, influence, engagement and leadership—over the next five years and beyond.

Q
A

You're no stranger to PDAC. Tell us about your various roles with the association and how you got started.
I have attended the PDAC Convention for 32 consecutive years since my university days. PDAC has been a significant presence throughout my career. When I joined the PDAC Board of Directors in 2007, I wanted to give back to the organization and to the industry that had given me so much—though I didn't have any idea as to how or in what way I could contribute. Soon after joining the Board I was invited to co-chair the Human Resources Development (HRD) Committee, then known as the Student Affairs Committee, and to help further develop the association's annual Student-Industry Mineral Exploration Workshop (S-IMEW), as well as expand the Student & Early Career Program.

The volunteers and staff of the HRD Committee have done a tremendous job, and S-IMEW is now into its 14th year with over 360 students having completed the workshop. Many S-IMEW alumni are now working in the industry or are pursuing graduate degrees. Moreover, the Student & Early Career Program continues to grow with the introduction of new student-focused events and initiatives every year. Student attendance at the convention has steadily grown as well. In 2007 student attendance was around 300. Now, some 1,300 students attend the convention and come from as far as Europe. I've also had the privilege to serve on PDAC's Membership, Governance and Nominating, Executive, and Awards Committees.

Q
A

What are some of your specific goals for the association and industry as a whole that you wish to achieve as PDAC President?
In addition to ensuring PDAC's five-year strategic plan and underlying programs are fully supported, I will look to strengthen the ties that exist between PDAC and the provincial and territorial prospector and mining associations. While PDAC's mandate is national in scope, ensuring similarly robust and effective advocacy at the provincial and territorial levels is critical to strengthening its own advocacy efforts in Ottawa. If we are to ensure a competitive and responsible minerals sector, one where Canada is a top destination for exploration and mining, it is incumbent on us all to ensure effective advocacy at all levels of government.

Q
A

You're a geologist by background. How has geology changed since you first started working in the sector?
The fundamentals haven't really changed. Exploration still involves going into the field, looking at rocks, and applying sound geological thinking. That said, there are considerably more tools available to aid the exploration process nowadays, and some of these tools require quite a high level of knowledge or specialization.

Driven by the need to make every exploration dollar count, to improve the efficiency of the exploration and development process and the chances for success, we are seeing technologies such as machine learning and artificial intelligence (AI), data management and analytics, blockchain, robotics and automation and the Internet of Things (IoT), increasingly making their way into the industry. With it comes the need for sufficiently-trained people to use the technologies. Arguably the exploration and development process is becoming much more multi-disciplinary or multi-specialist in nature and at an ever increasing rate.

From the human resource development perspective, this change, and the pace of this change, has often led me to wonder if we are sufficiently educating and training the next generation of geologists and engineers to meet the needs of our industry going forward 10 or 15 years.

Q
A

Over the course of your career, what major developments do you feel have played a pivotal role in making Canada's mineral exploration and mining sector a global powerhouse?

The significant watershed moment in the evolution of the Canadian mineral exploration industry occurred during the early 1990s when, as a result of unfavourable policy and regulatory regimes, there was an exodus of junior explorers overseas. I remember that time well. It was exciting for geologists who were eager to travel and work abroad.

An eventual return to more favourable policy and regulatory regimes brought some of those juniors back home to explore, but the exodus and export of expertise served to put Canada on the map, and eventually led to our emergence as a global leader in the mineral exploration and mining space. Many of us saw this change of status reflected in the PDAC Convention's transformation from a relatively small, predominantly domestic conference within the Royal York Hotel, to the enormous international conference that we see today at the Metro Toronto Convention Centre—Toronto's largest event space.

The 1990s were heady times. I learned just how quickly policy, legislative and regulatory changes can impact our industry—for better or for worse. Simply put, we cannot take things for granted and must continue to work hard to maintain Canada's leadership role and ensure a competitive and responsible mineral exploration and mining sector.

Q
A

How can juniors, and even mid-tier to large companies, succeed in today's volatile economic climate?

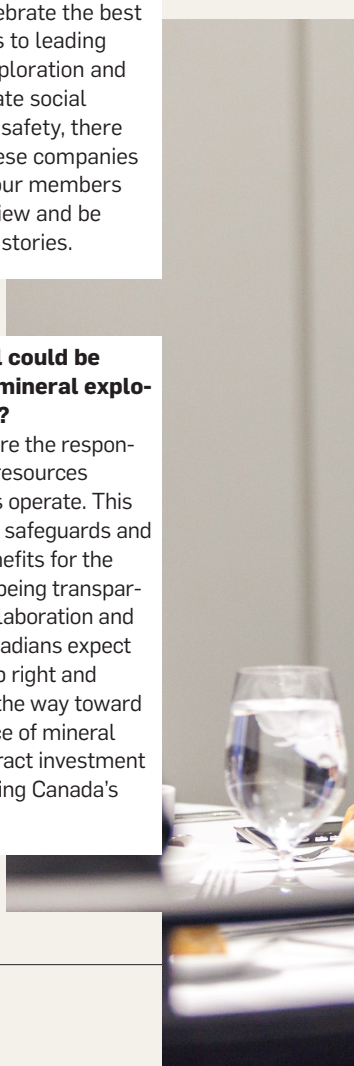
Our industry is going through difficult times right now, particularly the junior sector. Unfortunately volatility in metal prices and capital markets is a fact of life for us, and often the result of things that are beyond the immediate control of any one company. Focusing on things that can be controlled, such as finding quality projects, hiring quality people, employing industry best practices, and being innovative are key to weathering and succeeding in volatile climates. Of course, that is easier said than done. But ultimately it's the quality projects, quality management, innovative exploration and development practices that attract and retain investors.

Every year, PDAC Awards celebrate the best in our industry. When it comes to leading practices and innovation in exploration and development, finance, corporate social responsibility, and health and safety, there is something to learn from these companies and individuals. I encourage our members to visit the PDAC website to view and be inspired by the videos of their stories.

Q
A

What is something you feel could be done to improve Canada's mineral exploration and mining industry?

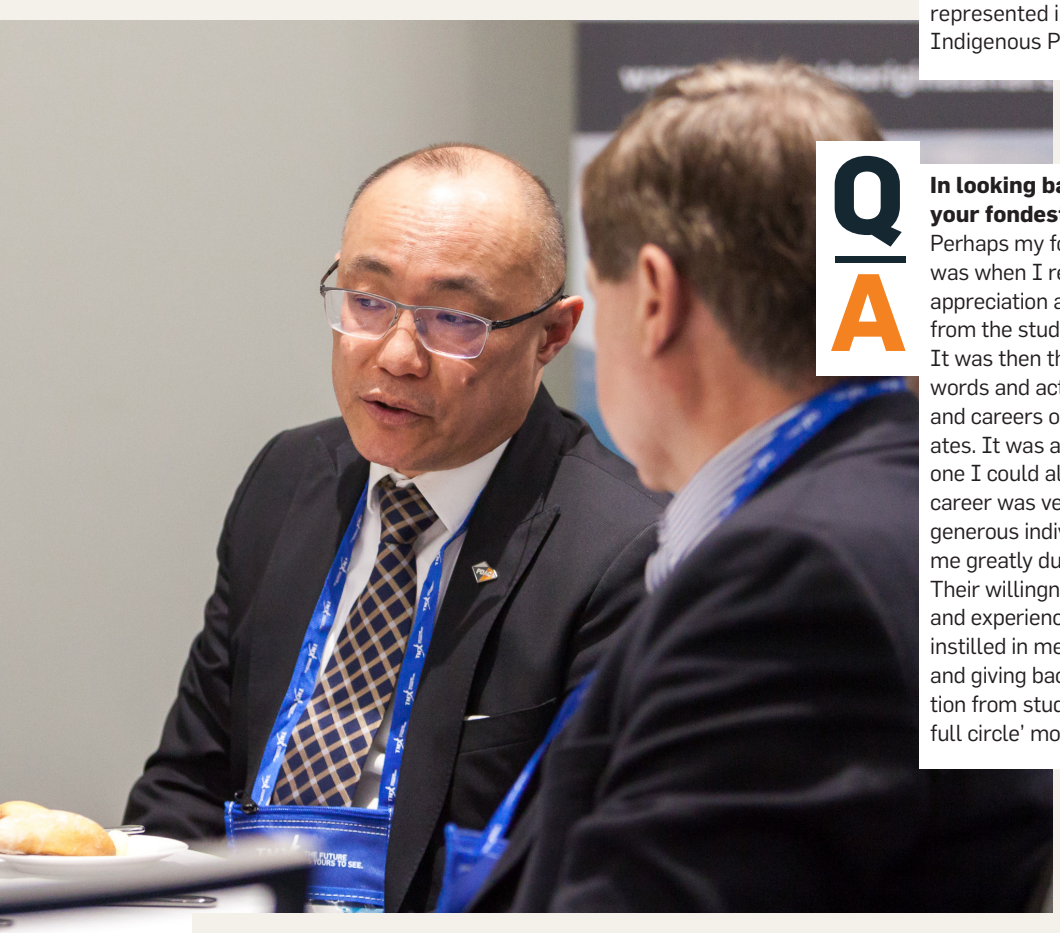
Most critical is striving to ensure the responsible development of mineral resources wherever Canadian companies operate. This means building environmental safeguards and enhancing socio-economic benefits for the communities where we work, being transparent, and having a vision for collaboration and shared value. This is what Canadians expect from our industry. Getting a job right and doing it well ultimately paves the way toward broader community acceptance of mineral projects. This in turn helps attract investment and skilled people, strengthening Canada's reputation.



If you could choose one place to explore in Canada where would it be? Why?
I've always had a soft spot for the Territories, particularly NWT and Nunavut, where I worked my first two jobs out of university. My first summer was spent as an assistant with the Geological Survey of Canada mapping along the east arm of Great Slave Lake. This was followed by work with a junior exploration company just southwest of Rankin Inlet. That was over 30 years ago, and unfortunately I've not had the opportunity to work in the Territories since.

I find it astonishing that the Territories remain relatively underexplored compared to other parts of Canada. That untapped potential is exciting to the exploration geologist in me. There's also something to be said for working in beautiful places. The vast scale of the landscape, the Inuit and Dene people and their cultures, as well as the rich history of our country that is tied to the north is a compelling reason to return to the Territories to explore some day.

The industry's skills shortage comes up every now and again. Are you concerned about new talent coming through the system? How can graduates be encouraged to go into mining?
It's certainly been a preoccupation of mine during my 12 years at PDAC. Current estimates show that the Canadian mineral exploration and mining sector is facing a shortfall of around 100,000 people over the next 10 years. This includes not only geologists and engineers, but technicians, miners, drillers, heavy equipment operators, and many other occupations and skills that are relied upon. Finding a long-term, sustainable solution to the skills shortage depends heavily on education and improving overall awareness of our industry amongst Canadians, as well as tapping into demographics that are currently under-represented or could be better represented in our industry, such as women, Indigenous Peoples and new Canadians.



In looking back on your career, what is your fondest moment?
Perhaps my fondest—and proudest—moment was when I received the first kind words of appreciation and requests to stay in touch from the students I had met during S-IMEW. It was then that I realized the impact my words and actions could have on the lives and careers of students and young graduates. It was a very humbling experience and one I could also relate to, given that my own career was very much the result of kind and generous individuals. My own mentors helped me greatly during the course of my career. Their willingness to freely share knowledge and experience left a lasting impression, and instilled in me the importance of contributing and giving back to the industry. So appreciation from students was very much a 'coming full circle' moment for me. **c**

MADE-IN-CANADA

Investment tools are the lifeblood of mineral exploration

HIGH RISK, HIGH REWARD—THAT'S A HALLMARK OF MINERAL EXPLORATION. Yet in Canada two fiscal incentives give explorers operating domestically, and their investor base, a big competitive advantage relative to the rest of the world.

They're flow-through shares (FTS) and the Mineral Exploration Tax Credit (METC). Both are vital in maintaining Canada's global competitiveness in exploration and discovery, cutting risk, and replenishing the country's natural wealth.

Explorers typically generate no revenue, but require substantial capital to realize discoveries. Transferring taxable benefits from the small explorer to the investor is a sound way of encouraging investment in the sector.

The FTS mechanism, in place in Canada for over three decades, is a unique equity tool. It allows investors to deduct every dollar invested in FTS from their taxable income.

Approximately 75 per cent of investments made in small-cap exploration companies operating in Canada come via FTS financing. The high proportion of FTS financings in the Canadian junior mineral sector means investors have ample opportunity to buy shares through this mechanism.

The METC, introduced in 2000, amplifies the impact of FTS investments. It gives retail investors an additional 15 per cent tax credit for investments made in companies conducting grassroots exploration in Canada.

The combination of FTS and METC incentives can spur investment and significantly mitigate the level of risk for retail investors in Canada. The Government of Canada just extended the METC for five years until 2024, a sign of support for investment growth in the industry.

INVESTING AT A DISCOUNT

What impact do these two incentives have on an investment?

Take someone who invests $1,000 in a flow-through share deal for a company operating in Ontario. After deducting the FTS tax benefit, the net cost to the investor would only be $465. Layering on METC, and combining the provincial credits available in Ontario, would further reduce an investor's net cost to roughly $375. See graph to the right.

Additional provincial credits vary across Canada. The same $1,000 investment would have a net cost of approximately $342 in British Columbia, $306 in Quebec and $295 in Manitoba.

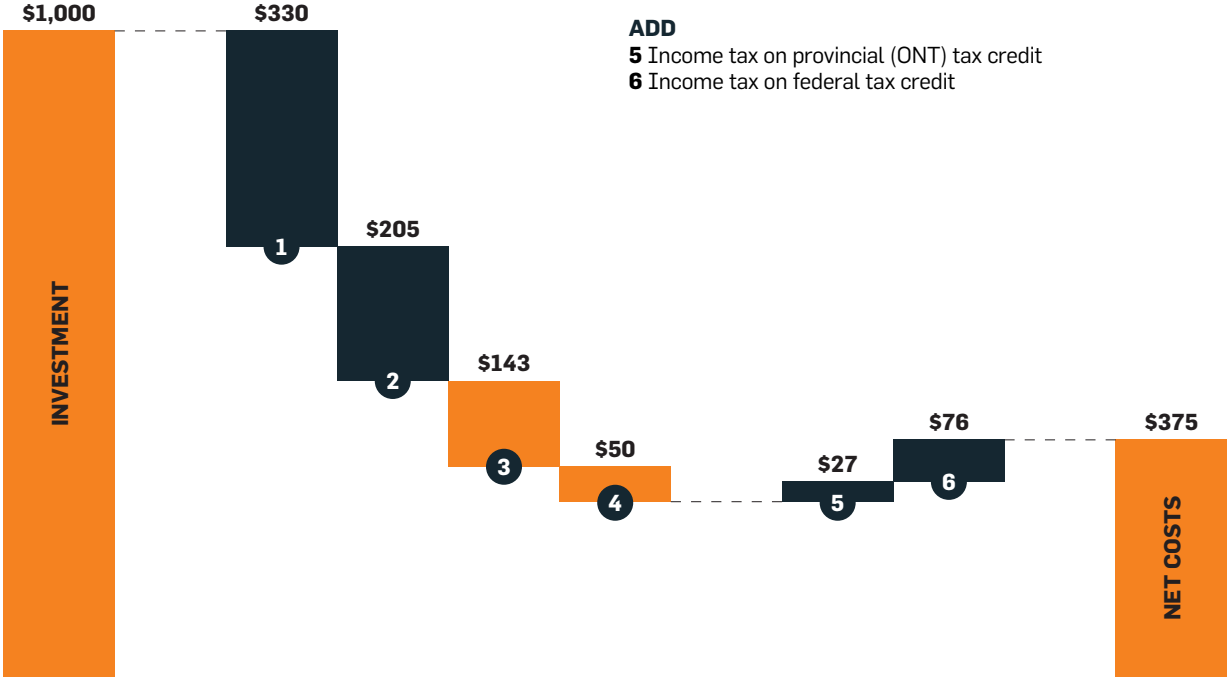
Canada's mineral exploration and mining industry employs 634,000 workers and contributes $96.5 billion annually to the country's GDP (directly and indirectly). New discoveries will lead to new mines, helping to advance the industry's competitiveness well into the future.

Investing in Canada's mineral exploration sector is crucial for the country's economy, and provides meaningful employment opportunities in northern and remote regions. The ability to do so at a significant discount for investors remains a made-in-Canada advantage.

For more information on FTS, METC mechanisms and net cost calculations by region, please visit the Prospectors & Developers Association of Canada: *pdac.ca/priorities/access-to-capital/fiscal-incentives*. C

This content was produced by PDAC and was previously published in *The Globe and Mail*.

NET INVESTOR COST IN ONTARIO



DEDUCT
1 Federal tax rate: **33%**
2 Provincial (ONT) tax rate: **20.53%**
3 Federal Mineral Exploration Tax credit (METC): **15%**
4 Provincial (ONT) METC rate: **5%**

ADD
5 Income tax on provincial (ONT) tax credit
6 Income tax on federal tax credit

CANADA'S MINERAL EXPLORATION AND MINING SECTOR NEEDS A BOOST TO STAY COMPETITIVE

Unless the country takes action, its reputation and attractiveness as a location for mineral investment will continue to decline

CANADA'S GEOLOGICAL ENDOWMENT IS THE ENVY OF THE WORLD. Our mineral exploration and mining sector have long been a vital economic engine for our country, one that supplies the minerals and metals needed in every aspect of our daily lives.

From northern and remote communities to Indigenous communities, towns, and cities across Canada, the industry employs 634,000 workers and contributes $96.5 billion annually to Canada's gross domestic product, both directly and indirectly.

Canada's mineral community is one of the few areas of our economy that can claim global leadership. For decades, we have been a world leader in the discovery, production, and processing of the minerals and metals needed to improve the quality of life for the world's growing population, while also supporting the transition to a lower carbon economy.

Much of the world's leading geological, engineering, legal, equipment, and financial expertise are found in Canada—a unique global industry supercluster that has developed over the course of more than a century.

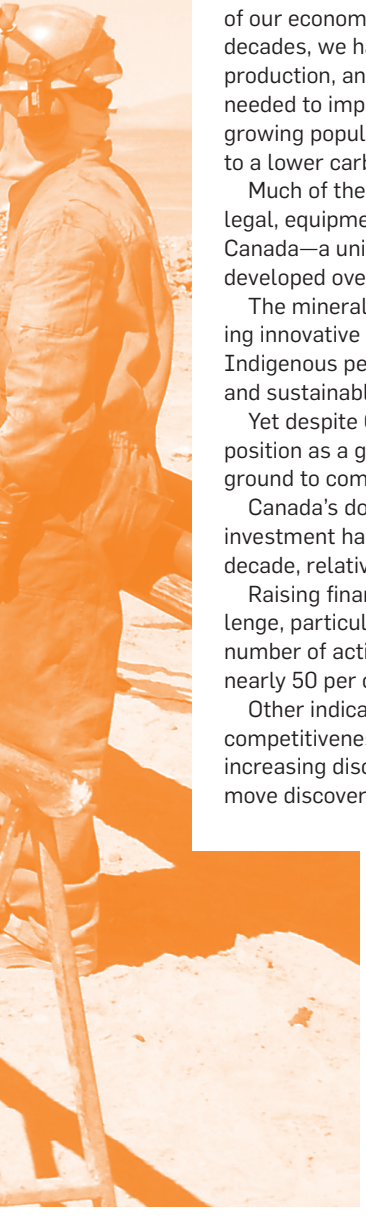
The mineral industry is also a proven leader in building innovative relationships and partnerships with Indigenous peoples, along with practices in responsible and sustainable development.

Yet despite Canada's rich geological endowment, our position as a global leader is in jeopardy as we are losing ground to competitors.

Canada's domestic share of mineral exploration investment has declined by nearly one-third over the last decade, relative to the rest of the world.

Raising financing for projects remains a daunting challenge, particularly early grassroots exploration, and the number of active mineral projects in Canada is down by nearly 50 per cent from the 2011 peak of 2,700 projects.

Other indicators of Canada's waning mineral industry competitiveness include declining base metals reserves, increasing discovery costs, and protracted timelines to move discoveries into production.



Declines in mineral investment in Canada cannot be primarily attributed to the most recent industry market down cycle. Specific policy decisions at the federal, provincial and territorial levels, along with numerous other factors, are impacting choices being made by companies and investors about where to invest.

Factors like project permitting, taxation, transportation policy and infrastructure, land access, and increased costs. The implications, unless addressed, are likely to persist regardless of improving market conditions.

One integral component for long-term stability is to cultivate and strengthen partnerships between governments and industry that aim to resolve Canada's waning mineral industry competitiveness.

That includes a strong fiscal policy, specifically the long-term renewal of the Mineral Exploration Tax Credit (METC), which is designed to incentivize investment in early stage exploration and was recently renewed for five years—something PDAC has long championed.

Strategic investments in transportation and energy infrastructure in the North, along with enhanced geological mapping and innovation, would also go a long way to support Canada's competitiveness.

If Canada does not respond to ensure the global competitiveness of the mineral sector, our reputation and attractiveness as a location for mineral investment will continue to decline over time, along with the social and economic benefits that significantly contribute to our prosperity **c**

MINING TALENT

How Canada's mineral industry is responding to skills shortage

ONE OF CANADA'S MOST ICONIC INDUSTRIES IS UNDER THREAT BY AN UNEXPECTED RIVAL—a skills shortage. Over the next 10 years, nearly 100,000 workers are expected to retire from critical geological, exploration and mining roles. As student enrolment in these fields drops, the workforce is shrinking at a faster rate than it is being replenished.

While enrolment in postsecondary engineering programs has doubled over the last 20 years, more than half of the students are focused on mechanical, civil and electrical engineering. Mineral, mining and geology enrolment dropped by 12 per cent between 2015 and 2016.

Yet the sector is finding innovative ways to attract and retain talent. The Prospectors & Developers Association of Canada (PDAC), the national voice of Canada's mineral sector, is at the forefront. Two years ago, PDAC launched a mentoring program to connect 35 professionals with 42 students and recent graduates. Now 55 mentors are involved in the program.

PDAC also offers a variety of bursaries and scholarships, and holds an annual Student-Industry Mineral Exploration Workshop. It brings together 26 geoscience students from post-secondary institutions across Canada for a two-week program in Sudbury, Ont. There, they take part in lectures, field excursions, mine site visits and networking events, all to learn about the different careers they can pursue in the industry.

Students aren't the only answer to the skills shortage. Some companies have tapped into a major pool of underused talent by recruiting veterans who are beginning post-military careers.

The Mining Industry Human Resources Council, in collaboration with the Toronto Region Immigrant Employment Council and Professions North/Nord, has also created the Mining Professional Immigrant Network. The goal is to help mining employers in Ontario connect with internationally trained professionals in search of employment.

Many companies are also looking to increase their representation of women, who make up just 16 per cent of the mining sector.

The doors are beginning to open for women at a faster rate than ever. Across the industry, companies are stepping up diversity and inclusion strategies and gender equity initiatives. One of the world's largest mining companies, BHP, has set an ambitious target of a 50 per cent female workforce by 2025.

While there's still a ways to go to balance the gender scale, the sector is heading in the right direction. It's all part of the broader effort to put the mechanisms in place now that will secure the talent needed to meet the demand of the future. **c**

MINERAL SECTOR LOOKS TO MOVE THE NEEDLE ON GENDER DIVERSITY AND INCLUSION

A **TRANSFORMATION IS TAKING PLACE WITHIN SOCIETY**, as conversations about diversity and inclusion are reshaping the workplace. Although the seeds of progress have been planted, there is more work to be done.

In Canada's minerals and metals sector, women, Indigenous peoples and immigrants remain underrepresented.

The sector will require an estimated 86,000 to 126,000 workers by 2025. With around 634,000 workers currently working in the industry (directly and indirectly), that equates to replacing as much as one fifth of the workforce within just six years.

To meet that challenge, companies are looking to change their workforce makeup and workplace culture.

Representation of women in the mineral sector has risen from 14 per cent to nearly 20 per cent in the past decade. There are efforts to accelerate that trend. BHP Billiton has set gender equity quotas, and pledged to achieve gender parity by 2025. Goldcorp's Creating Choices program aims to empower, train and provide mentorship opportunities for women.

More and more mineral exploration and mining companies have also been implementing enterprise-wide diversity and inclusion strategies. Such strategies not only help to attract and retain skilled personnel, but also have an impact on the bottom line.

Global studies demonstrate a positive relationship between diversity and business performance. For example, companies with executive teams in the top quartile for gender diversity outperform on profitability and value creation. Inclusive engagement can also help to strengthen projects and maximize community benefits.

To support such efforts, PDAC is developing new guidance on gender diversity and inclusion for *e3 Plus: A Framework for Responsible Exploration.*

The project has two goals. One, provide guidance for exploration and mining companies on how to foster a more diverse and inclusive workplace. Two, help companies work with communities in a way that ensures mining-related activities benefit everyone.

To develop and implement the project, PDAC assembled a stakeholder advisory group, whose members have a mix of industry and community engagement experience. A draft version of the guide is under development. The advisory group will serve as a platform for knowledge-sharing on topics that advance the dialogue around diversity and inclusion in the sector.

The business and HR case is clear. PDAC and its members will continue to champion the positive attributes that diversity and inclusion will bring. Getting it right will serve the mineral exploration and mining community well, and help future generations to reap the many benefits the sector provides. **c**

Mylène O'Brien
Marish Williams

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